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From: Winston, Randall  
Sent: Tuesday, November 23, 2004 4:50 PM  
To: STIC-ILL  
Subject: Articles

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1) Title: Limonene concentration in lemon peel oil as a function of ripeness, HRC-Journal of High Resolution Chromatography, (Sep 1994) Vol. 17, No. 9, pp. 643-646., Author: Combariza et al.

2) Title: Lemon and lime citrus essential oils. Analysis and organoleptic evaluation, ACS Symp. Ser., (1993), pp. 88-102. American Chemical Society. Washington DC (USA), Author: Chamblee et al.

3) Title: Fungitoxic properties of the essential oil of Citrus Limon (L.) Burm. against a few dermatophytes, Mycoses, (1988) Vol. 31, No. 7 pp. 380-382. 3 ref., Author: Misra et al.

4) Title: Composition of lemon oil distilled from commercial mill waste, Journal of Food Science, (1976), 41 (5) 1194-1197, 19 ref., Author: Lund et al.

**Winston, Randall**

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**From:** Leith, Patricia  
**Sent:** Tuesday, November 23, 2004 4:25 PM  
**To:** Winston, Randall  
**Subject:** STN Search

ANSWER 1 OF 8 LIFESCI COPYRIGHT 2004 CSA on STN  
AN 2003:88766 LIFESCI  
TI Volatile Constituents of the Fruits Peels of Citrus Lemon (Linn) Burm.F  
AU Mahalwal, V.S.; Ali, M.\*  
CS Faculty of Pharmacy, Jamia Hamdard, (Hamdard University) P.O. Hamdard  
Nagar, New Delhi-110062, India; E-mail: [root@hamduni.res.nic.in](mailto:root@hamduni.res.nic.in)  
SO Journal of Essential Oil-Bearing Plants [J. Essent. Oil-Bear. Plants],  
(20030400) vol. 6, no. 1, pp. 31-35.  
ISSN: 0972-060X.  
DT Journal  
FS R  
LA English  
SL English  
AB A steam distilled volatile oil obtained from the fruit  
peels of Citrus lemon belonging to Rutaceae family was  
analysed by capillary GC and GC/MS. The volatile oil contains 30  
components of which 25 constituents comprising 95.50% of the oil were  
identified. The oil mainly contained monoterpenes (81.2%) and  
l-limonene (37.2%) was the major characterized monoterpane followed by  
camphene (12.3%) alpha -terpineol (11.2%), alpha -phellendrene (6.5%) and  
4-terpineol (6.4%). Among 13 sesquiterpenes (14.2%) identified,  
alpha -selinene (3%) was the predominant sesquiterpene followed by  
caryophyllene oxide (2.5%), t-nerolidol (2.4%) and valencene (2.1%).  
CC 18101 Perfumery, essential oils & spices  
UT Essential oils; Volatiles; Fruits; Gas chromatography; monoterpenes;  
sesquiterpenes; 1-Limonene; camphene; alpha -Terpineol; alpha -Selinene;  
Citrus lemon

L4 ANSWER 2 OF 8 FSTA COPYRIGHT 2004 IFIS on STN DUPLICATE 1  
AN 2002:T0243 FSTA  
TI Composition and seasonal variation of the essential oil from leaves and  
peel of a Cretan lemon variety.  
AU Vekiari, S. A.; Protopapadakis, E. E.; Papadopoulou, P.; Papanicolaou, D.;  
Panou, C.; Vamvakias, M.  
CS Nat. Agric. Res. Foundation (NAGREF)/Inst. of Tech. of Agric. Products  
(ITAP), 1 S. Venizelou St., Lykovrissi 14123, Athens, Greece. Tel.  
0030-1-2845940. Fax 0030-1-284074. E-mail [itap@otenet.gr](mailto:itap@otenet.gr)  
SO Journal of Agricultural and Food Chemistry, (2002), 50 (1) 147-153, 17  
ref.  
ISSN: 0021-8561  
DT Journal  
LA English  
AB Composition of leaf and peel essential oils from the Cretan lemon var.  
Zambetakis was analysed. Leaves and fruits were sampled in Dec. 1996,  
Mar., May, June and Nov. of 1997, and April 1998. Essential oils were  
obtained from leaves and fruit peel by steam distillation using  
a Clevenger apparatus and subjected to GC-MS analysis to identify  
volatile compounds in the oils. Effect of sampling month on aroma profile  
and volatile compounds concn. of the essential oils was also studied. 35

compounds were identified. The main component in both essential oils was limonene. .beta.-Pinene, myrcene, neral, geranial, neryl acetate, geranyl acetate and .beta.-caryophyllene were identified in the leaf oil. The peel oil contained .gamma.-terpinene, .beta.-pinene, myrcene, neral and geranial. Quantification of volatile substances was based on the internal standard method, using octyl acetate as an internal standard, and expressed as mg/kg essential oil. The high contents of neral and geranial were indicative of the high quality of both essential oils. Seasonal variations in volatile compound composition of lemon leaf or peel oils are reported.

CC T (Additives, Spices and Condiments)

CT AROMA; ESSENTIAL OILS; LEMONS; SEASON; VOLATILE COMPOUNDS; CITRUS ESSENTIAL OILS

L4 ANSWER 3 OF 8 BIOENG COPYRIGHT 2004 CSA on STN DUPLICATE

AN 2004312895 BIOENG

DN 0241275

TI Volatile constituents of the peel and leaf oils of citrus limon L. burm.  
f. from Benin

AU Ayedoun, AM; Sossou, PV; Mardarowicz, Marek; Leclercq, Piet A

CS Universite Nationale du Benin, Benin, Nigeria

SO Journal of Essential Oil Research [J ESSENT OIL RES], vol. 8, no. 4, pp. 441-444, 1996

Published by: ALLURED PUBLISHING COMPANY, CAROL STREAM, IL, (USA)

ISSN: 1041-2905

DT Journal

LA English

AB The peel and leaf oils of Citrus limon L. from Benin were analyzed by capillary GC on two columns of different polarity, and by GC /MS. In these oils 42 and 27 components were identified representing over 99.7% of the oils. The main constituents of the lemon peel oil were limonene (70.4%), gamma -terpinene (11.8%) and beta -pinene (4.2%). The leaf oil consisted mainly of limonene (40.8%), beta -pinene (18.5%) and citronellal (16.5%).

CC 804.1 Organic Compounds; 461.9 Biology; 801 Chemistry; 802.3 Chemical Operations

CT Plants (botany); Composition; Gas chromatography; Mass spectrometry; Distillation

UT Volatile constituents; Peel and leaf oils; Citrus limon; Limonene; Pinene; Terpinene; Benin

L4 ANSWER 4 OF 8 SCISEARCH COPYRIGHT (c) 2004 The Thomson Corporation. on STN

AN 94:652786 SCISEARCH

GA The Genuine Article (R) Number: PK729

TI LIMONENE CONCENTRATION IN LEMON (CITRUS-VOLKAMERIANA) PEEL OIL AS A FUNCTION OF RIPENESS

AU COMBARIZA M Y; TIRADO C B; STASHENKO E (Reprint); SHIBAMOTO T

CS UNIV IND SANTANDER, DEPT QUIM, AA 678, BUCARAMANGA, COLOMBIA (Reprint); UNIV IND SANTANDER, DEPT QUIM, BUCARAMANGA, COLOMBIA; UNIV CALIF DAVIS, DEPT ENVIRONM TOXICOL, DAVIS, CA, 95616

CY A COLOMBIA; USA

SO HRC-JOURNAL OF HIGH RESOLUTION CHROMATOGRAPHY, (SEP 1994) Vol. 17, No. 9, pp. 643-646.

ISSN: 0935-6304.

DT Article; Journal

FS PHYS; LIFE

LA ENGLISH

REC Reference Count: 8

AB The dependence of the limonene content of lemon (*Citrus volkameriana*) peel oil on the degree of ripeness of the fruit has been studied by using steam distillation and cold pressing to extract the oils from lemon fruit peel at different stages of maturation (green, greenish-yellow, and yellow-orange peel coloration). Samples of essential oils were analyzed by high resolution GC and GC-MS, using tetradecane as internal standard for quantitation. Forty components were detected; thirty eight were positively identified by comparison of their mass spectra (EI, 70 eV) and Kovats retention indexes (determined using a non-logarithmic scale on capillary columns coated with both polar (DB-Wax) and non-polar (DB-1) stationary phases) with those of standards and with data reported in the literature. The limonene concentration reached a maximum level of 79.4% when the fruit was in the intermediate maturation stage characterized by greenish-yellow coloration.

CC CHEMISTRY, ANALYTICAL

ST Author Keywords: HIGH RESOLUTION CAPILLARY GC; HIGH RESOLUTION GC-MS; LEMON OIL; CITRUS VOLKAMERIANA

RE

Referenced Author |Year| VOL | PG | Referenced Work  
 (RAU) |(R PY)|(R VL)|(R PG) | (RWK)

DAVIES N W	1992  36  56  GOBEMACION SANTANDER
DUGO G G	1990  503  1  J CHROMATOGR
INOMA S	1988  69  544  PARFUM KOSMET
LANCAS F M	1989  29  87  KANZEI CHUO BUNSEKIS
NOMURA M	1990  13  207  HRC-J HIGH RES CHROM
RAMASWAMI K	1988  37  726  YUKAGAKU
URIBE R	1990  185  641  FLAVORS FRAGRANCES W

L4 ANSWER 5 OF 8 BIOENG COPYRIGHT 2004 CSA on STN

AN 2004228402 BIOENG

DN 3027596

TI Lemon and lime citrus essential oils. Analysis and organoleptic evaluation.

AU Chamblee, TS; Clark, BC Jr

CS Corp. Res. and Dev. Dep., Coca-Cola Co., P.O. Drawer 1734, Atlanta, GA 30301, USA

SO Editor(s): Teranishi, R; Buttery, RG; Sugisawa, H (eds)  
 BIOACTIVE VOLATILE COMPOUNDS FROM PLANTS., AMERICAN CHEMICAL SOCIETY, WASHINGTON, DC (USA), 1993, pp. 88-102, ACS Symposium Series [ACS SYMP. SER.], no. 525

Conference: 203. National Meeting of the American Chemical Society, San Francisco, CA (USA), 5-10 Apr 1992

Published by: AMERICAN CHEMICAL SOCIETY, WASHINGTON, DC (USA)

ISBN: 0-8412-2639-3

ISSN: 0097-6156

DT Book; Conference

LA English

SL English

OS Chemoreception Abstracts

AB The techniques used in this laboratory to obtain accurate qualitative and quantitative analyses of lemon and lime essential oils are reviewed. This quantitative database has helped to clarify the differences among Sicilian and California lemon peel oils, and also to explain the chemical changes that take place during production of distilled lime oil. The HPLC-separated oxygenated fractions of Sicilian lemon peel oil have

been evaluated organoleptically by a panel of experts using a capillary GC sniff port. A relatively quick, convenient method was used to pinpoint important contributors to lemon aroma. Although the data is based on a small number of opinions, the results agree well with earlier literature and expand the knowledge of lemon flavor. Relative intensity factors were assigned their importance to lemon aroma.

CC 18101 Perfumery, essential oils & spices

CT organoleptic properties; essential oils; gas chromatography; lemon; lime; aroma

L4 ANSWER 6 OF 8 LIFESCI COPYRIGHT 2004 CSA on STN DUPLICATE 3

AN 93:128339 LIFESCI

TI Lemon and lime citrus essential oils. Analysis and organoleptic evaluation.

AU Chamblee, T.S.; Clark, B.C.,Jr.

CS Corp. Res. and Dev. Dep., Coca-Cola Co., P.O. Drawer 1734, Atlanta, GA 30301, USA

SO ACS SYMP. SER., (1993) pp. 88-102. AMERICAN CHEMICAL SOCIETY. WASHINGTON, DC (USA).

Meeting Info.: 203. National Meeting of the American Chemical Society. San Francisco, CA (USA). 5-10 Apr 1992.

ISBN: 0-8412-2639-3.

DT Book

TC Conference

FS R

LA English

SL English

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CC 18101 Perfumery, essential oils & spices

UT organoleptic properties; essential oils; gas chromatography; lemon; lime; aroma

L4 ANSWER 7 OF 8 CABA COPYRIGHT 2004 CABI on STN

AN 89:6547 CABA

DN 19891201713

TI Fungitoxic properties of the essential oil of Citrus limon (L.) Burm. against a few dermatophytes

AU Misra, N.; Batra, S.; Mishra, D.

CS Dep. Botany, Univ. Gorakhpur, Gorakhpur 273009, India.

SO Mycoses, (1988) Vol. 31, No. 7, pp. 380-382. 3 ref.

ISSN: 0933-7407

DT Journal

LA English

SL German

ED Entered STN: 19941101

Last Updated on STN: 19941101

AB The essential oil of lemon peel was obtained

by steam distillation and its min. inhibitory concn (MIC) against 3 dermatophytes was determined. MIC was 900 p.p.m. for *Trichophyton mentagrophytes* and 1000 p.p.m. for *Epidermophyton floccosum* and *Microsporum gypseum*. The fungitoxicity of the oil was not affected by autoclaving and storage. The constituent of the oil responsible for fungitoxicity was isolated by thin layer chromatography and identified as citral.

CC HH400 Pesticides and Drugs (General); FF040 Plant Composition; SS200 Non-food/Non-feed Plant Products; VV200 Parasites, Vectors, Pathogens and Biogenic Diseases of Humans (Discontinued March 2000); VV800 Human Toxicology, Poisoning and Pharmacology (Discontinued March 2000)

SC HO; HE; CA; PA; EC; OL; OC

BT *Trichophyton*; *Deuteromycotina*; *Eumycota*; fungi; *Epidermophyton*; *Microsporum*; *Rutaceae*; *Sapindales*; dicotyledons; angiosperms; *Spermatophyta*; plants; *Citrus*

CT antifungal agents; citral; antifungal properties; dermatophytes; Plant extracts; Lemons; fruits; composition; Essential oils; medicinal plants

RN 5392-40-5

ORGN *Trichophyton mentagrophytes*; *Epidermophyton floccosum*; *Microsporum gypseum*; *Citrus*; *Citrus limon*

④ ANSWER 8 OF 8 FSTA COPYRIGHT 2004 IFIS on STN

AN 1977(02):J0129 FSTA

TI Composition of lemon oil distilled from commercial mill waste.

AU Lund, E. D.; Bryan, W. L.

CS USDA Citrus & Subtropical Products Lab., S. Region, Winter Haven, Florida 33880, USA

SO *Journal of Food Science*, (1976), 41 (5) 1194-1197, 19 ref.

DT Journal

LA English

AB Distilled lemon peel oil, a source of flavouring components, was recovered by steam stripping of waste aqueous effluent emulsion from a lemon oil mill. Compositions of distilled and cold-pressed oils were compared. Distilled oil was richer in the sparingly water-soluble oxygenated flavour components, linalool, terpinene-4-ol and  $\alpha$ -terpineol. Concn. of citral, the major lemon flavouring component, was the same in both oils; but concn. of neryl acetate and some unidentified higher boiling components were lower in distilled oil. Odour evaluations and analytical results indicated that distilled oil may be a valuable source of lemon flavouring components.

CC J (Fruits, Vegetables and Nuts)

CT ESSENTIAL OILS; FLAVOUR COMPOUNDS; LEMONS; OILS; PEEL; COMPOSITION; LEMON PEEL; LEMON PEEL OILS

*Patty Leith*

*US Patent and Trademark Office  
Tech Center 1600  
Biotechnology  
Art Unit 1654  
REM 3D21*

(571) 272-0968

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**Winston, Randall**

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**From:** Leith, Patricia  
**Sent:** Tuesday, November 23, 2004 4:25 PM  
**To:** Winston, Randall  
**Subject:** STN Search

ANSWER 1 OF 8 LIFESCI COPYRIGHT 2004 CSA on STN  
AN 2003:88766 LIFESCI  
TI Volatile Constituents of the Fruits Peels of Citrus Lemon (Linn) Burm.F  
AU Mahalwal, V.S.; Ali, M.\*  
CS Faculty of Pharmacy, Jamia Hamdard, (Hamdard University) P.O. Hamdard  
Nagar, New Delhi-110062, India; E-mail: [root@hamduni.ren.nic.in](mailto:root@hamduni.ren.nic.in)  
SO Journal of Essential Oil-Bearing Plants [J. Essent. Oil-Bear. Plants],  
(20030400) vol. 6, no. 1, pp. 31-35.  
ISSN: 0972-060X.  
DT Journal  
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SL English  
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caryophyllene oxide (2.5%), t-nerolidol (2.4%) and valencene (2.1%).  
CC 18101 Perfumery, essential oils & spices  
UT Essential oils; Volatiles; Fruits; Gas chromatography; monoterpenes;  
sesquiterpenes; 1-Limonene; camphene; alpha -Terpineol; alpha -Selinene;  
Citrus lemon

L4 ANSWER 2 OF 8 FSTA COPYRIGHT 2004 IFIS on STN DUPLICATE 1  
AN 2002:T0243 FSTA  
TI Composition and seasonal variation of the essential oil from leaves and  
peel of a Cretan lemon variety.  
AU Vekiaris, S. A.; Protopapadakis, E. E.; Papadopoulou, P.; Papanicolaou, D.;  
Panou, C.; Vamvakias, M.  
CS Nat. Agric. Res. Foundation (NAGREF)/Inst. of Tech. of Agric. Products  
(ITAP), 1 S. Venizelou St., Lykovrissi 14123, Athens, Greece. Tel.  
0030-1-2845940. Fax 0030-1-284074. E-mail [itap\(a\)otenet.gr](mailto:itap(a)otenet.gr)  
SO Journal of Agricultural and Food Chemistry, (2002), 50 (1) 147-153, 17  
ref.  
ISSN: 0021-8561

DT Journal  
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AB Composition of leaf and peel essential oils from the Cretan lemon var.  
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CT AROMA; ESSENTIAL OILS; LEMONS; SEASON; VOLATILE COMPOUNDS; CITRUS ESSENTIAL OILS

L4 ANSWER 3 OF 8 BIOENG COPYRIGHT 2004 CSA on STN DUPLICATE

AN 2004312895 BIOENG

DN 0241275

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AU Ayedoun, AM; Sossou, PV; Mardarowicz, Marek; Leclercq, Piet A

CS Universite Nationale du Benin, Benin, Nigeria

SO Journal of Essential Oil Research [J ESSENT OIL RES], vol. 8, no. 4, pp. 441-444, 1996

Published by: ALLURED PUBLISHING COMPANY, CAROL STREAM, IL, (USA)

ISSN: 1041-2905

DT Journal

LA English

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CC 804.1 Organic Compounds; 461.9 Biology; 801 Chemistry; 802.3 Chemical Operations

CT Plants (botany); Composition; Gas chromatography; Mass spectrometry; Distillation

UT Volatile constituents; Peel and leaf oils; Citrus limon; Limonene; Pinene; Terpinene; Benin

L4 ANSWER 4 OF 8 SCISEARCH COPYRIGHT (c) 2004 The Thomson Corporation. on STN

AN 94:652786 SCISEARCH

GA The Genuine Article (R) Number: PK729

TI LIMONENE CONCENTRATION IN LEMON (CITRUS-VOLKAMERIANA) PEEL OIL AS A FUNCTION OF RIPENESS

AU COMBARIZA M Y; TIRADO C B; STASHENKO E (Reprint); SHIBAMOTO T

CS UNIV IND SANTANDER, DEPT QUIM, AA 678, BUCARAMANGA, COLOMBIA (Reprint); UNIV IND SANTANDER, DEPT QUIM, BUCARAMANGA, COLOMBIA; UNIV CALIF DAVIS, DEPT ENVIRONM TOXICOL, DAVIS, CA, 95616

CY A COLOMBIA; USA

SO HRC-JOURNAL OF HIGH RESOLUTION CHROMATOGRAPHY, (SEP 1994) Vol. 17, No. 9, pp. 643-646.

ISSN: 0935-6304.

DT Article; Journal

FS PHYS; LIFE

LA ENGLISH

REC Reference Count: 8

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CC CHEMISTRY, ANALYTICAL

ST Author Keywords: HIGH RESOLUTION CAPILLARY GC; HIGH RESOLUTION GC-MS; LEMON OIL; CITRUS VOLKAMERIANA

RE

Referenced Author |Year | VOL | PG | Referenced Work  
(RAU) |(R PY)|(R VL)|(R PG) | .(RWK)

DAVIES N W	1992  36  56  GOBEMACION SANTANDER
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INOMA S	1988  69  544  PARFUM KOSMET
LANCAS F M	1989  29  87  KANZEI CHUO BUNSEKIS
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URIBE R	1990  185  641  FLAVORS FRAGRANCES W

L4 ANSWER 5 OF 8 BIOENG COPYRIGHT 2004 CSA on STN

AN 2004228402 BIOENG

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CS Corp. Res. and Dev. Dep., Coca-Cola Co., P.O. Drawer 1734, Atlanta, GA 30301, USA

SO Editor(s): Teranishi, R; Buttery, RG; Sugisawa, H (eds)  
BIOACTIVE VOLATILE COMPOUNDS FROM PLANTS., AMERICAN CHEMICAL SOCIETY, WASHINGTON, DC (USA), 1993, pp. 88-102, ACS Symposium Series [ACS SYMP. SER.], no. 525

Conference: 203. National Meeting of the American Chemical Society, San Francisco, CA (USA), 5-10 Apr 1992

Published by: AMERICAN CHEMICAL SOCIETY, WASHINGTON, DC (USA)

ISBN: 0-8412-2639-3

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DT Book; Conference

LA English

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CC 18101 Perfumery, essential oils & spices

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L4 ANSWER 6 OF 8 LIFESCI COPYRIGHT 2004 CSA on STN DUPLICATE 3

AN 93:128339 LIFESCI

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AU Chamblee, T.S.; Clark, B.C.,Jr.

CS Corp. Res. and Dev. Dep., Coca-Cola Co., P.O. Drawer 1734, Atlanta, GA 30301, USA

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ISBN: 0-8412-2639-3.

DT Book

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L4 ANSWER 7 OF 8 CABA COPYRIGHT 2004 CABI on STN

AN 89:6547 CABA

DN 19891201713

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AU Misra, N.; Batra, S.; Mishra, D.

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SO Mycoses, (1988) Vol. 31, No. 7, pp. 380-382. 3 ref.

ISSN: 0933-7407

DT Journal

LA English

SL German

ED Entered STN: 19941101

Last Updated on STN: 19941101

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CC HH400 Pesticides and Drugs (General); FF040 Plant Composition; SS200 Non-food/Non-feed Plant Products; VV200 Parasites, Vectors, Pathogens and Biogenic Diseases of Humans (Discontinued March 2000); VV800 Human Toxicology, Poisoning and Pharmacology (Discontinued March 2000)

SC HO; HE; CA; PA; EC; 0L; 0C

BT *Trichophyton*; *Deuteromycotina*; *Eumycota*; fungi; *Epidermophyton*; *Microsporum*; *Rutaceae*; *Sapindales*; dicotyledons; angiosperms; *Spermatophyta*; plants; *Citrus*

CT antifungal agents; citral; antifungal properties; dermatophytes; Plant extracts; Lemons; fruits; composition; Essential oils; medicinal plants

RN 5392-40-5

ORGN *Trichophyton mentagrophytes*; *Epidermophyton floccosum*; *Microsporum gypseum*; *Citrus*; *Citrus limon*

L4 ANSWER 8 OF 8 FSTA COPYRIGHT 2004 IFIS on STN

AN 1977(02):J0129 FSTA

TI Composition of lemon oil distilled from commercial mill waste.

AU Lund, E. D.; Bryan, W. L.

CS USDA Citrus & Subtropical Products Lab., S. Region, Winter Haven, Florida 33880, USA

SO Journal of Food Science, (1976), 41 (5) 1194-1197, 19 ref.

DT Journal

LA English

AB Distilled lemon peel oil, a source

of flavouring components, was recovered by steam stripping of waste aqueous effluent emulsion from a lemon oil mill. Compositions of distilled and cold-pressed oils were compared. Distilled oil was richer in the sparingly water-soluble oxygenated flavour components, linalool, terpinene-4-ol and  $\alpha$ -terpineol. Concn. of citral, the major lemon flavouring component, was the same in both oils; but concn. of neryl acetate and some unidentified higher boiling components were lower in distilled oil. Odour evaluations and analytical results indicated that distilled oil may be a valuable source of lemon flavouring components.

CC J (Fruits, Vegetables and Nuts)

CT ESSENTIAL OILS; FLAVOUR COMPOUNDS; LEMONS; OILS; PEEL; COMPOSITION; LEMON PEEL; LEMON PEEL OILS

*Patty Leith*

*US Patent and Trademark Office  
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FILE 'ADISCTI, ADISINSIGHT, ADISNEWS, AGRICOLA, ANABSTR, ANTE, AQUALINE, AQUASCI, BIOBUSINESS, BIOCOMMERCE, BIOENG, BIOSIS, BIOTECHDS, BIOTECHNO, CABA, CANCERLIT, CAPLUS, CEABA-VTB, CEN, CIN, CONFSCI, CROPB, CROPU, DDFB, DGENE, DISSABS, DRUGB, DRUGMONOG2, ...' ENTERED AT 15:10:26 ON 23 NOV 2004

L1 0 SEA (AURAPTENE AND MARMIN AND LIMETTIN AND MELANZIN AND  
5-GERANOXY-7-METHYCOUMARIN AND CITROOPEN AND BERGAPTEN AND  
BERGAMOTTIN AND BERGAPTOL AND EPOXYBERGAMOTTIN AND DIHYDROXYBER  
GAMOTTIN AND 5-GERANOXY-PSORALEN)  
L2 27 SEA (LEMON) (3W) (PERICARP)  
D IBIB ABS L2 1-27

**FILE HOME**

FILE ADISCTI

FILE COVERS 1983 TO 23 Nov 2004 (20041123/ED)

FILE LAST UPDATED: 23 NOV 2004 (20041123/ED)

FILE ADISINSIGHT

FILE COVERS 1986 TO 19 Nov 2004 (20041119/ED)  
FILE LAST UPDATED: 19 NOV 2004 (20041119/ED)

FILE ADISNEWS

FILE COVERS 1983 TO 23 Nov 2004 (20041123/ED)

This file contains CAS Registry Numbers for easy and accurate substance identification.

## FILE AGRICOLA

FILE COVERS 1970 TO 4 Nov 2004 (20041104/ED)

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FILE ANABSTR  
FILE LAST UPDATED: 22 NOV 2004 <20041122/UP>  
FILE COVERS 1980 TO DATE.

>>> SIMULTANEOUS LEFT AND RIGHT TRUNCATION IS AVAILABLE IN  
THE BASIC INDEX (/BI) AND CHEMICAL NAME (/CN) FIELDS <<<

FILE ANTE  
FILE LAST UPDATED: 19 OCT 2004 <20041019/UP>  
FILE COVERS 1981 TO DATE

>>> SIMULTANEOUS LEFT AND RIGHT TRUNCATION AVAILABLE IN  
THE BASIC INDEX <<<

=> d 13 1- all

YOU HAVE REQUESTED DATA FROM 2 ANSWERS - CONTINUE? Y/(N):y

L3 ANSWER 1 OF 2 FROSTI COPYRIGHT 2004 LFRA on STN  
AN 494859 FROSTI  
TI Progress in essential oils.  
AU Lawrence B.M.  
SO Perfumer and Flavorist, 1999, (March-April), 24 (2), 35-47 (29 ref.)  
ISSN: 0272-2666  
DT Journal  
LA English  
AB The chemical compositions of essential oils lovage, pimento, lime and Spanish oregano are described. The percentage composition of lovage root oil, major components of lovage root oils of seedlings and adult plants, and oils produced from various plant parts of *Levisticum officinale* are tabulated. The percentage composition from dynamic headspace analysis of various parts of the lovage plant, and of lovage leaf oil and stem oil from plants harvested at different stages of maturity are presented, together with comparative percentage composition of lovage seed oil and flower oil. The yield of components identified in various pimento extracts and percentage composition of steam-distilled oil, hydrodistilled oil and supercritical carbon dioxide extract of Mexican pimento are examined. The percentage composition of lime oil, a supercritical fluid carbon dioxide extract fraction of the oil, and percentage composition of the volatile portion of cold-pressed Persian lime oil and Key lime oils type A and B are considered, together with coumarins and psoralens in these oils. The percentage composition of distilled lime oils of different origins, and percentage enantiomeric distribution of selected monoterpenes in various lime oils are addressed. The chemical composition and enantiomeric distribution of constituents in Spanish oregano oil are discussed.

SH ADDITIVES  
CT ANALYSIS; CITRUS OILS; CITRUS PRODUCTS; COMPOSITION; ESSENCES; ESSENTIAL OILS; FRUIT PRODUCTS; INGREDIENTS; LIME OIL; LOVAGE OIL; PIMENTO OIL; SPANISH OREGANO OIL  
DED 28 May 1999

L3 ANSWER 2 OF 2 FROSTI COPYRIGHT 2004 LFRA on STN  
AN 412803 FROSTI  
TI International citrus symposium.  
AU Lawrence B.M.  
SO Perfumer and Flavorist, 1996, 21 (3), 1-2+4-6 (0 ref.)  
DT Journal  
LA English  
AB The International Citrus Symposium was held in January 1996 in Florida. This article gives an account of the papers presented at the symposium. The topics discussed included the Food Machinery Company's (FMC's) process for simultaneous oil and juice isolation from citrus fruit; thermally induced off-flavours that can be produced during the storage of orange juice; an analysis of the volatiles and non-volatiles of distilled lime oil and lemon oil, respectively; the characterisation of four coumarinoid constituents in bergamot oil; the authenticity of commercial samples of neroli, petitgrain and bergamot oil; the use of HPLC pre-fractionation in the analysis of citrus oils; the volatile constituents of the juices produced from normal and blood oranges; the analysis of the petitgrain oils of bitter orange, mandarin, sweet orange and bergamot; and new citrus hybrids (hybrids of clementines with lemon, grapefruit, mandarin and blood orange).

SH FRUIT AND VEGETABLE PRODUCTS  
CT ANALYSIS; CITRUS; CITRUS FRUITS; CITRUS JUICES; CITRUS OILS; COMPOSITION; CONFERENCES; ESSENTIAL OILS; FRUIT JUICES; FRUIT OILS; FRUITS; HYBRIDS; LEMON JUICE; LEMON OIL; LEMONS; LIME JUICE; LIME OIL; LIMES; NEW

PRODUCTS; OILS; ORANGE JUICE; ORANGE OIL; ORANGES; VOLATILE; VOLATILE  
COMPOUNDS

DED 12 Jul 1996